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# Payments for Ecosystem Services

Factsheet

## What are ecosystem services?

Ecosystem services are the benefits that humans derive from the natural world. These services can benefit us directly or contribute to the production of goods or services that we benefit from. Ecosystem services can be grouped into four categories:

1. **Provisioning services:** the tangible goods that humans can harvest from the environment, such as food, water, medicine, raw materials, and energy.
2. **Regulation services:** services that occur naturally in the environment, such as the regulation of air quality, flood management, and carbon sequestration.
3. **Cultural services:** benefits related to health and well-being, including tourism, recreation, and education.
4. **Supporting services:** functions essential for sustaining all ecosystem services, such as soil formation, nutrient cycling, and biodiversity.



## What are payments for ecosystem services?

Payments for Ecosystem Services (PES) are payments made to farmers or landowners for actions that either preserve, restore, or enhance an ecosystem service. The idea is that beneficiaries of an ecosystem service, such as businesses and governments, compensate individuals for providing or stewarding a service that they benefit from.

For example, companies may pay landowners or farmers to protect watersheds, conserve biodiversity, or sequester carbon – all of which are ecosystem services that can be achieved through actions like planting trees, protecting existing trees, or using different agricultural techniques.[1]

PES programmes are usually underpinned by the following principles [2]:

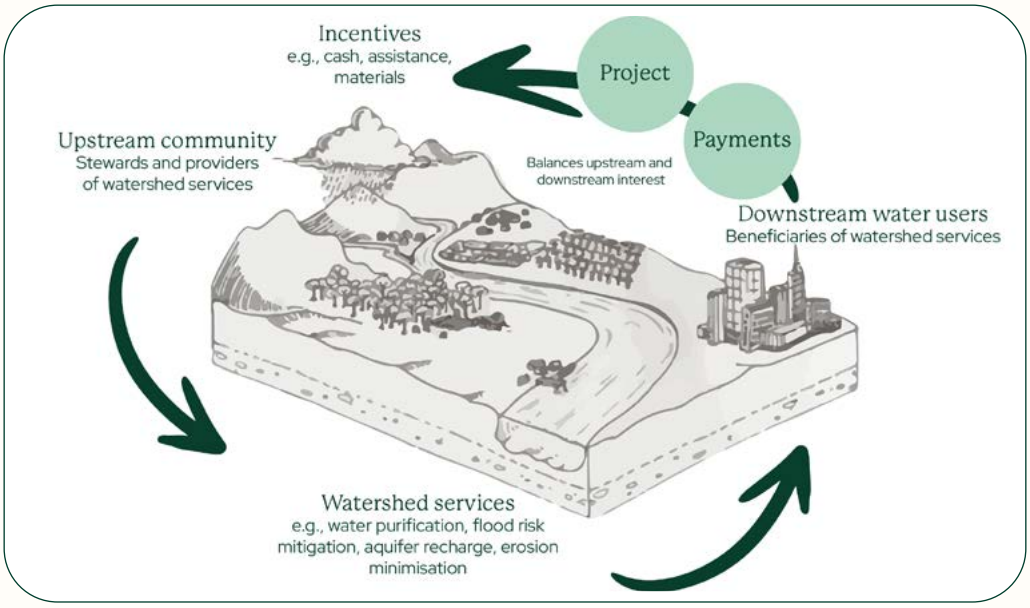
- Voluntary participation: Stakeholders participate in PES on a voluntary basis.
- Beneficiary payments: Payments are made by the beneficiaries of ecosystem services, shifting away from the conventional 'polluter pays' principle.
- Direct payments: Payments are made directly to ecosystem service providers, often via an intermediary or broker.
- Additionality: Payments are made only for actions that go above and beyond those that landowners or stewards would generally be expected to undertake.
- Conditionality: Payments depend on the implementation of land management practices that are likely to give rise to ecosystem service benefits.
- Permanence: The interventions paid for by beneficiaries should not be readily reversible.
- Avoiding leakage: where securing an ecosystem service in one location leads to the loss or degradation of ecosystem services elsewhere.

## Why is PES important?

PES recognises the role the environment plays in contributing to both our wellbeing and sustainable economic growth. It uses a market-based approach and has the potential dual benefit of protecting the environment and alleviating poverty – especially in rural areas that depend on agriculture.

PES provides financial incentives to individuals to conserve natural resources, ensuring that ecosystem services are maintained or restored in areas where they have been degraded. Importantly, interventions that focus on just one ecosystem service often yield multiple indirect benefits. For example, although reforestation may primarily aim to capture carbon, it can also help improve water quality and support biodiversity.

Moreover, PES can play an important role in supporting local economies and livelihoods by creating additional opportunities for income generation. This is especially important for the tea industry, where earning a living income from tea sales alone is a major challenge for tea farmers due to low tea prices and small farm sizes, among other factors.




Example of how PES works in watersheds. Source: Centre for International Forestry Research (CIFOR)

## PES and carbon sequestration

PES programmes can reward individuals for enhancing a number of different ecosystem services, although carbon sequestration is one of the most common. This is the process of capturing, storing, and reducing excess carbon dioxide (CO2) from the atmosphere, and is vital to mitigating climate change and limiting global warming to 1.5°C.

One of the ways to achieve carbon sequestration is by planting trees as they naturally absorb CO 2 from the atmosphere and store it as woody biomass and organic soil matter. The amount of carbon removed by the planted trees can then be calculated and sold to companies and others as a type of carbon credit called a 'Carbon Removal Unit' (CRUs). Each CRU signifies that one tonne of carbon has been removed from the atmosphere.

Purchasing CRUs on carbon markets is a form of PES as it involves a buyer paying for an ecosystem service (carbon sequestration). However, this should be done with the intention of additionality; companies should purchase CRUs to support climate change mitigation above and beyond their own emissions reduction targets or regulatory obligations.[3]

## PES in the tea industry

Paying farmers to sequester carbon through tree planting is one of the most practical and effective options for PES in the tea sector since it can address multiple challenges at once. Low incomes and small farm sizes often force tea farmers to weigh up their land use options, which can result in cutting down trees to cultivate more tea or obtain firewood – a major energy source and commodity in many tea-growing regions.

PES, through global carbon markets, incentivises tea farmers to protect and renew forested areas in and around their farms. This not only increases the potential for carbon storage but also gives farmers an opportunity to earn financial returns from planting trees, supporting them in diversifying their streams of income and bridging the living income gap. Planting fruit trees can also boost farm incomes through sales at local markets.

Farmers can also experience several other benefits from agroforestry, such as the potential for improved tea yields on existing land and better resilience to climate change, a major challenge impacting the tea sector globally.[4] For example, root systems have been shown to improve soil health and maintain soil structure during flooding, while leaves provide shade for tea plants, protecting them from high temperatures and droughts.

## PES and gender

While PES typically focuses on the environmental and economic benefits, there is a growing interest in how it can also support gender outcomes.

Generally, while women tend to value, prioritise or use ecosystem services (such as energy, food, water and medicine) more than men, they are often excluded from or have limited access to PES programmes globally.[5] This is commonly due to gender discrimination or limited time resulting from care responsibilities.

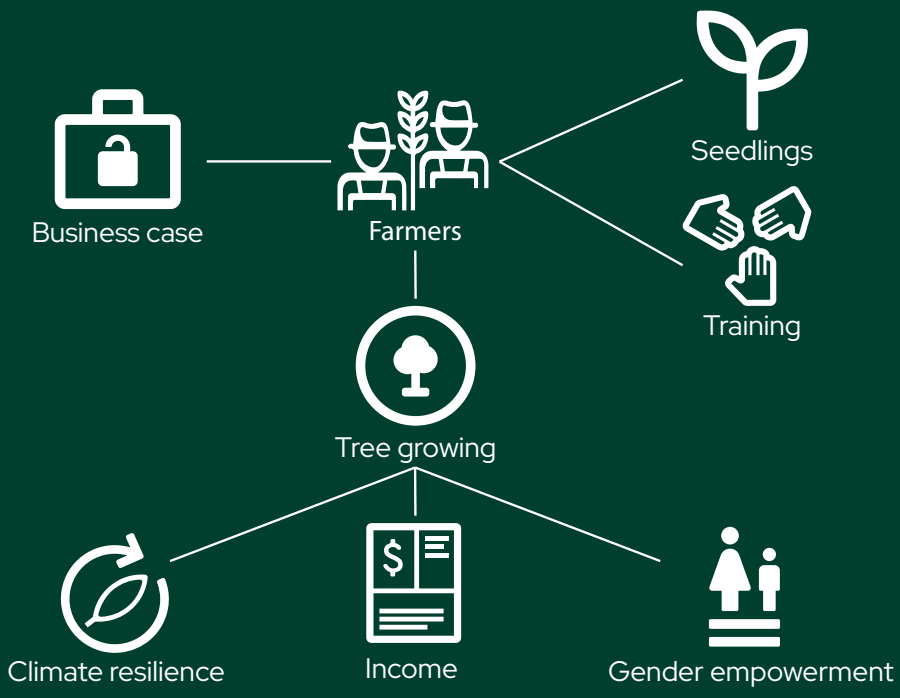
However, research has shown that when PES programmes prioritise women in their design, they can lead to several gender-related benefits, such as improving gender equity in financial and household decision making and reducing poverty among women.[6] Women's higher participation in PES has also been shown to significantly improve the environmental effectiveness of PES programmes.[7]

## ETP's approach

We have partnered with the Foreign, Commonwealth & Development Office's (FCDO) Work and Opportunities for Women (WOW) programme and ETP members to pilot a PES project in Malawi to achieve three things:

- to financially support tea farmers;
- to strengthen women's equality; and
- to adapt to climate change.

Based on business case research, the project will take an agroforestry approach by using shade trees around the tea crop and boundary and fruit trees on the wider smallholder plot, to ensure the best outcomes for farmers. The project utilises structures such as Village Savings and Loans Associations to provide business management training to families and ensures gender equality outcomes are prioritised.




The initiative uses Rabobank's ACORN model, an innovative methodology for measuring and monetising absorbed carbon through Carbon Removal Units, which are certified by Plan Vivo. We are starting implementation with the two largest tea smallholder associations in Malawi and intend to scale this approach in the coming years.

# Sources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